

**Amendment and Response**

Serial No.: 09/651,702

Filed: August 30, 2000

For: SUPERCRITICAL COMPOSITIONS FOR REMOVAL OF ORGANIC MATERIAL AND METHODS OF USING SAME

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C<sub>1</sub>  
cont. the heating efficiency of the system when creating the supercritical composition in the mixing manifold 122 prior to entering the pressure vessel 114. The organic material removal composition passes over the substrate 116 from the dispensing device 126.

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**In the Claims**

✓ Please cancel claims 26 and 30, amend claims 19-25, 27, 29, and 31-32, and add new claims 33-38. The new and amended claims are provided below in clean form. Per 37 C.F.R. §1.121, amended claims are also shown in Appendix A with notations to indicate changes made (for convenience, all pending claims, including those added hereby, are provided in Appendix A).

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1 19. (Amended) An organic material removal composition comprising sulfur trioxide (SO<sub>3</sub>) in a supercritical state.

2 20. (Amended) The composition of claim 19, wherein the composition further comprises at least one oxidizer selected from the group consisting of sulfur dioxide (SO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), NO, NO<sub>2</sub>, ozone (O<sub>3</sub>), hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), F<sub>2</sub>, Cl<sub>2</sub>, Br<sub>2</sub>, and oxygen (O<sub>2</sub>).

C<sub>23</sub> 21. (Amended) The composition of claim 20, wherein the at least one oxidizer is in a supercritical state.

4 22. (Amended) The composition of claim 19, wherein the composition consists essentially of sulfur trioxide in the supercritical state.

5 23. (Amended) The composition of claim 19, wherein the composition further comprises an additional component selected from the group consisting of carbon dioxide (CO<sub>2</sub>), ammonia

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(NH<sub>3</sub>), H<sub>2</sub>O, nitrous oxide (N<sub>2</sub>O), carbon monoxide (CO), nitrogen (N<sub>2</sub>), helium (He), neon (Ne), argon (Ar), krypton (Kr), and xenon (Xe).

<sup>6</sup>  
C<sub>2</sub> 24. (Amended) The composition of claim <sup>5</sup>23, wherein the additional component is carbon dioxide.

9 25. (Amended) An organic material removal composition comprising sulfur trioxide (SO<sub>3</sub>) in a supercritical state and an oxidizer.

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11 27. (Amended) An organic material removal composition comprising:  
a first component selected from the group consisting of carbon dioxide (CO<sub>2</sub>), ammonia (NH<sub>3</sub>), H<sub>2</sub>O, nitrous oxide (N<sub>2</sub>O), carbon monoxide (CO), nitrogen (N<sub>2</sub>), helium (He), neon (Ne), argon (Ar), krypton (Kr), and xenon (Xe);

C<sub>3</sub> a second component selected from the group consisting of sulfur dioxide (SO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), NO, NO<sub>2</sub>, ozone (O<sub>3</sub>), hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), F<sub>2</sub>, Cl<sub>2</sub>, Br<sub>2</sub>, and oxygen (O<sub>2</sub>); and sulfur trioxide (SO<sub>3</sub>) in a supercritical state.

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C<sub>4</sub> <sup>13</sup> 29. (Amended) The composition of claim <sup>11</sup>27, wherein a ratio of the sulfur trioxide to the second component is about 1:100 by volume to about 100:1 by volume.

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<sup>12</sup>  
14 31. (Amended) The composition of claim <sup>11</sup>29, wherein a ratio of carbon dioxide:sulfur trioxide is about 10:1 by volume to about 1:1 by volume.

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C<sub>5</sub> <sup>15</sup> 32. (Amended) The composition of claim <sup>11</sup>31, wherein the first component is in a supercritical state.

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14 ~~43~~ 11  
~~33~~ (New) The composition of claim 27, wherein the second component is in a supercritical state.

17 ~~44~~ 11  
~~34~~ (New) The composition of claim 27, wherein the first component and the second component are both in supercritical states.

7 ~~45~~ 5  
~~35~~ (New) The composition of claim 28, wherein the additional component is in a supercritical state.

8 ~~46~~ 1  
~~36~~ (New) The composition of claim 19 further comprising a component selected from the group consisting of hydrogen chloride, hydrogen bromide, hydrogen fluoride, ammonium fluoride, tetramethylammonium fluoride, tetramethylammonium hydroxide, beta-diketones, fluorinated-diketones, organic acids, and combinations thereof.

9 ~~47~~ 9  
~~37~~ (New) The composition of claim 26 further comprising a component selected from the group consisting of hydrogen chloride, hydrogen bromide, hydrogen fluoride, ammonium fluoride, tetramethylammonium fluoride, tetramethylammonium hydroxide, beta-diketones, fluorinated-diketones, organic acids, and combinations thereof.

13 ~~48~~ 11  
~~38~~ (New) The composition of claim 27 further comprising a component selected from the group consisting of hydrogen chloride, hydrogen bromide, hydrogen fluoride, ammonium fluoride, tetramethylammonium fluoride, tetramethylammonium hydroxide, beta-diketones, fluorinated-diketones, organic acids, and combinations thereof.